LANCY ENVIRONMENTAL SERVICES COMPANY
DIVISION OF LANCY INTERNATIONAL, INC.
181 Thorn Hill Road
Warrendale, Pa 15086-7527

DESCRIPTION OF FACILITIES

AND

ENGINEERING REPORT

MULTIMETAL PRODUCTS CORP.

4150 B OLD BERWICK ROAD, BLOOMSBURG, PENNSYLVANIA 17815

Submitted;

Lancy Laboratories
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232 Third Avenue
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I. GENERAL DISCUSSION OF WASTE SOURCES

AND

PROPOSED TREATMENT METHODS

A. INTRODUCTION

Included in the production facilities of the United States Radium Corporation at its plant in Bloomsburg, Pennsylvania (4150 Berwick Road) are metal finishing and plating areas. In this unlicensed section of the plant which embodies the complete metal decorating and finishing facilities, various process solutions containing disolved metals, acids, alkalies and cyanides are employed. The process solutions which are periodically discarded represent a source of aqueous waste which may contain any of the contaminants mentioned. The rinse waters, which flow continuously during plant operation are also contaminated with the same materials and represents a more voluminous but less concentrated source of waste waters.

Lancy Laboratories, Inc., has been retained to develop plans and specifications for an installation which will provide a suitable industrial waste treatment system for these facilities.

The purpose of this report is to submit the schematic flow diagram and equipment layout for the proposed waste treatment system and to present a draft of the proposed mode of operation of the treatment plant which will take into consideration the factors related to production, flow patterns, plant layout etc. which were established during the plant survey and process analysis. Recommendation of processes to minimize the cost of waste treatment by metal recovery and water conservation are part of this report as well.

Total project costs for engineering and equipment are included and items related to installation will be estimated insofar as is practical.

B. ENGINEERING CONSIDERATIONS

All of the water used in rinsing and making-up process solutions will be obtained from the municipal water supply system of the borough of Bloomsburg, Pa.

The completely treated industrial rinse water effluent will be discharged into the North Branch of the Susquehanna River from a point on the U. S. Radium Corporation property. The anticipated quantity and quality of the effluent leaving the clarifier are shown on table I appended. Sanitary waste from the plant is not considered in this report.

The anticipated work schedule for the finishing departments involved in this treatment system is for one maximum 10-hour shift per day for five days per week. Many of the areas run on an intermittant basis during this normal operating period.

Drawing #USR-101 Flow Schematic is a representation of the various methods of treatments to be employed. These methods will result in three distinct types of discharges:

1. Neutral rinse waters, free of contamination and essentially of drinking-water quality.

2. Inert sludges which will be concentrated in a special sludge holding tank and then transferred to a tank truck to be hauled away and disposed of as sanitary land fill.

3. Periodically dumped cleaning solutions containing no toxic materials but requiring biological treatment. These are to be hauled for disposal by a licensed contractor.

C. SOURCES OF WASTE

A. Dilute Wastes - consisting of flowing rinse waters including the following types:

1. Chromium containing rinse waters are produced when parts are rinsed following chromates for aluminum processing.

2. Cyanide - containing rinse waters result when parts are rinsed after silver, and potassium cyanide plating.

3. Brass and ammonia are the primary contaminants found in the rinse waters following the ammonium persulfate etch.

4. Acids, alkalies and heavy metals may be found in the rinses following all other process solutions.

B. Concentrated wastes consist of discarded process solutions and floor spill. Floor spill included any material such as concentrated chemical or process solution which may find its way to the floor through leaks, drips or overflows. These concentrated wastes may be contaminated with any of the materials listed under dilute wastes.

D. TREATMENT METHODS PROPOSED

In view of the large variety of processes and types of waste and the small and intermittant nature of the production, automatic control and flexibility are two of the main objectives to be considered in designing a waste treatment system for this plant. The rinse water consumption is minimal and additional